

REMARKS

Applicant respectfully traverses and requests reconsideration.

Applicant wishes to thank the Examiner for the notice that claims 25-31 are allowed.

Claims 1-7, 9-11 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,341,347 (Joy) in view of Krishna. The “Response to Arguments” section of the final office action appears to misapprehend Applicant’s prior arguments as well as the teachings of the Joy reference. The Examiner again states “Joy teaches each pipeline stage selects one active thread (column 7, lines 41-44; column 8, lines 14-26; column 10, lines 14-37 and column 37, lines 9-23)” (emphasis added) (page 2 of final action). Applicant respectfully submits that Joy does not teach that a pipeline stage selects any thread. Applicant respectfully submits that there is a difference between a pipeline stage and a pipeline since a pipeline by definition has multiple stages. As Applicant attempted to point out in their previous response, the cited portions of Joy do not refer to pipeline stages but instead, for example, refer to different pipelines. The Joy reference appears to be completely silent as to pipeline depth and an execution pipeline having a depth less than or equal to a plurality of programs and wherein the plurality of programs that are interleaved in an execution pipeline is greater than or equal to the depth of the pipeline. Applicant has amended claim 1, for example, to include inherent subject matter indicating that a depth of the execution pipeline includes a plurality of execution stages. This is done to hopefully clarify Applicant’s position and the understanding of the Joy reference. As stated in Applicant’s Specification, one advantage provided by Applicant’s disclosure is that when one instruction of a program has as dependency based on execution of a previous instruction, that second instruction is not provided to the execution pipeline until completion of the first instruction. In the meantime, interleaved instructions from other programs are still being

executed in the pipeline while the first instruction of the first program is executing. Thus, the pipeline is always full and the processor is working at peak capacity. Since Joy does not teach, among other things, “that each pipeline stage selects an active thread” as alleged and since it does not teach what is alleged as noted above, the rejection must be withdrawn. Applicant has also amended other independent claims to indicate that the pipeline has a depth of a plurality of execution stages.

As to claim 3, Applicant has amended claim 3 to indicate that while a previous instruction is not provided to the pipeline, in the meantime an instruction from another program is being executed by the pipeline. Again, this does not appear to be taught or suggested by the cited references.

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Joy and Krishna in view of Nguyen. Applicant respectfully reasserts the relevant remarks made above and as such, this claim is also in condition for allowance.

Claims 12 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Joy and Krishna in view of Narayanaswami. Applicant respectfully reasserts the relevant remarks made above and as such, these claims are also in condition for allowance. The claims also add additional novel and non-obvious subject matter.

Claims 14-17 and 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Joffe in view of Krishna. As to claim 14, Applicant has also amended the claim to note that the instruction from another of the programs has been interleaved while the first instruction is executing. Again, this does not appear to be taught or suggested by the cited references.

The dependent claims add additional novel and non-obvious subject matter.

As to claim 33, Applicant respectfully notes that this claim also requires, among other things, checking to see if all of said plurality of programs are completed. The office action cites column 2, lines 35-39 as allegedly teaching this subject matter. However, the cited portion does not refer to whether a plurality of identified programs have been completed, but to the contrary, refers to the fact that a resource is not provided to a task until after every other task sharing the resource has finished accessing the resource. The task may still be uncompleted but the resource is allocated as disclosed. Applicant respectfully submits that the claim is in condition for allowance.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Joffe and Krishna in view of Nguyen. Applicant respectfully reasserts the relevant remarks made above and as such, this claim is also in condition for allowance.

Accordingly, Applicant respectfully submits that the claims are now in condition for allowance and that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

Dated: November 12, 2008

By: /Christopher J. Reckamp/
Christopher J. Reckamp
Reg. No. 34,414

Vedder Price P.C.
222 North LaSalle
Chicago, Illinois 60601
312/609-7500
312/609-5005 Facsimile